

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number  
**WO 2005/062505 A1**

(51) International Patent Classification<sup>7</sup>: **H04B 10/13** (74) Agent: KILBURN & STRODE; 20 Red Lion Street, London WC1R 4PJ (GB).

(21) International Application Number:

PCT/GB2004/005287

(22) International Filing Date:

17 December 2004 (17.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0329908.8 23 December 2003 (23.12.2003) GB

(71) Applicant (*for all designated States except US*): CAMBRIDGE UNIVERSITY TECHNICAL SERVICES LIMITED [GB/GB]; The Old Schools, Cambridge CB2 1TS (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): PENTY, Richard, Vincent [GB/GB]; Home Farm House, Meeting Lane, Litlington, Royston SG9 0QF (GB). WHITE, Ian, Hugh [GB/GB]; ZinWave Limited, Harston Mill, Harston, Cambridge CB2 5GG (GB). HARTMANN, Peter [CH/CH]; Haldenstrasse 40, CH-7323 Wangs (CH). SEEDS, Alwyn, John [GB/GB]; ZinWave Limited, Harston Mill, Harston, Cambridge CB2 5GG (GB).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

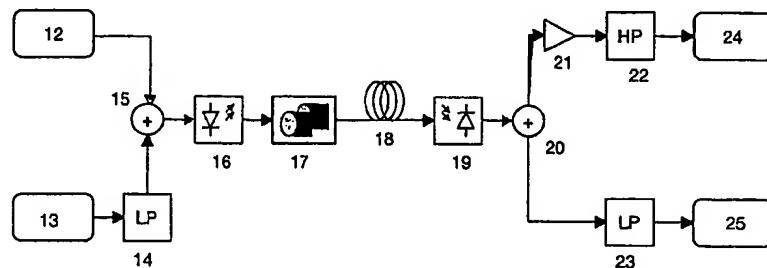
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: MULTISERVICE OPTICAL COMMUNICATION



(57) Abstract: A method is provided for the transmission of digital and radio frequency signals, for example for multiservice applications, over all types of multimode optical fibre link using laser diodes. The method comprises launching optical radiation into the core of the multimode optical fibre, in a manner that restricts the number of excited modes within it. The subset of modes that are excited suppress additional noise due to the presence of a multiplicity of signals, and ensure high quality transmission.

WO 2005/062505 A1